

REMARKS

Claims 22-45 are pending. The Examiner withdrew claims 39-42 from consideration in paper No. 6. New claims 43-45 are added herein.

Applicants note that Examiner Farah has been very helpful in the past, and Examiner Farah is respectfully encouraged to telephone applicants' attorney for any reason to expedite prosecution.

I. The double patenting rejection.

The Office Action states that claims 14 and 16-33 of application 09/762,834 (now US patent 6,537,270) triggers double patenting. However, applicants respectfully note that the present claims are directed to patentably distinct subject matter at least because of how the Gaussian distribution limitation is claimed in the present claims. Additionally new claims 43, 44, and 45 are added and should be considered before a terminal disclaimer is executed. Therefore, applicants respectfully request that the USPTO reconsider the requirement of a terminal disclaimer.

II. Independent Claims 22 and 35 have been amended according to the Examiner's reasoning at page 7.

At page 7, the Examiner comments that the language:

said microoptically active structure having a diffractively active element structured in the micrometer range whose dimensions approximately correspond to the wavelength of the pulsed laser beam.

is not claimed specifically. Therefore, this language has been added to the claims for consideration.

III. New claims 43-45 are added herein for consideration.

No new matter is added. These claims are respectfully supported at least at pages 4-5 and page 11, and page 15 of the specification.

IV. In regard to the cited references

Telfair is much older technology than the present invention; it is for full ablation of the eye, and it only discloses (see Col. 4, lines 15-17) "the 5 to 7 mm diameter characterized beam ultimately delivered to the eye" for full ablation of the eye rather than what is claimed in claims 22 and 35 with the claimed "microoptically active structure," i.e., there is no "microoptically active structure" disclosed in Telfair as described further below. See also new claims 43 and 45 in this regard.

Therefore, the USPTO cites Elbrecht solely for teaching a "microoptically active structure".

However, it is respectfully asserted that neither reference when taken alone or together teach or suggest the specific limitations of claims.

Telfair

The invention of Telfair et al. is directed to methods for shaping and homogenizing the intensity inside the cross section of a rectangular laser pulse from an ultraviolet excimer laser so as to produce a circular laser beam with a Gaussian intensity distribution that is suitable for reshaping the cornea. However, as stated above, Telfair is for a full area ablation.

The excimer laser 11 emits a collimated beam of typical approximate sectional dimension 22-mm by 7-mm. The distribution in the X-direction is essentially "flat top" (see Col. 3, line 67 and the enclosed illustration for background information only of the difference in practice between flat top and Gaussian results in laser surgery). The distribution in the Y-direction is substantially Gaussian. (see Col. 4, lines 1 to 3). The beam is characterized by laterally extending irregular fringes of greater relative intensity at both ends of the width dimension. (Col. 3, lines 55 to 58). This X-direction beam shape of radiation will not produce a smooth treated surface as claimed in the present claimed invention (see flat top versus Gaussian figure attached for background information only regarding the difference in practice between flat top and Gaussian results in laser surgery).

Elbrecht

Elbrecht is a German language reference which is only descriptive in the Abstract and figures. The Abstract states that beam cross section may be changed by the surface 4 of microoptical array.

However, it not seen where Elbrecht teaches or suggests the limitations of claims 22 and 35 of:

said microoptically active structure having a diffractively active element structured in the micrometer range whose dimensions approximately correspond to the wavelength of the pulsed laser beam .

Like wise, in regard to claim 43 and 45 it not seen where the limitations are taught or suggested of:

“applying the laser with a radially symmetric intensity distribution in a mutually overlapping spot pattern so that a smooth non-step like resultant application to the surface is provided to avoid creation of central islands in the surface.”

In regard to claim 45:

“performing a first spot scanning wherein first spots are sized to extend over a smaller area than the entire surface to be treated; and
performing a second spot scanning wherein second spots are sized is in the range of the size of the surface to be treated and whose centers are directed to the center of the surface to be treated;
so that the resultant effect from the first and second spot scanning steps is a smooth non-step like resultant laser radiation application to the surface to avoid creation of central islands in the surface.”

is not taught or suggested.

Therefore, independent claims 22, 35, and 43 are respectfully asserted to be allowable. The remaining claims depend from these claims and are therefore also allowable.

Additionally, although the Examiner is respectfully believed to be well versed in the law of obviousness, and combination of references, the relevant law is reproduced below for completeness of the record because the requisite 1. “motivation to combine,” 2. “reasonable expectation of

success" and 3. "teaching of all the limitations" reasoning was not provided in the previous Office Action as required under 35 USC 103.

In order to establish a *prima facie* case of obviousness under 35 USC 103 according to section 706.02(j) of the Manual of Patent Examining Procedure (MPEP) the following criteria must be met:

The MPEP Standard for Combining/Modifying References

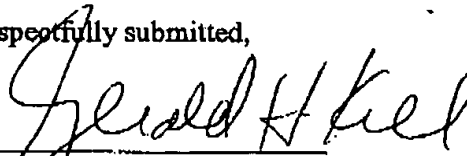
The Manual of Patent Examining Procedure, section 706.02(j) sets forth the standard for combining and/or modifying prior art, and states:

To establish a *prima facie* case of obviousness, three basic criteria must be met. **First**, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. **Second**, there must be a reasonable expectation of success. **Finally**, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art and not based on applicant's disclosure. *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991). See MPEP § 2143 - § 2143.03 for decisions pertinent to each of these criteria. [Bold emphasis provided.]

V. Conclusion.

In light of the *FESTO* case, no argument or amendment made herein was related to the statutory requirements of patentability unless expressly stated herein. No claim amendment or argument made was for the purpose of narrowing the scope of any claim unless Applicant has explicitly stated that the argument is "narrowing." It is respectfully requested that all of the claims be reconsidered and allowed. An early and favorable action on the merits is respectfully requested.

Respectfully submitted,



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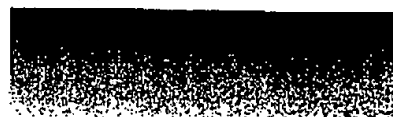
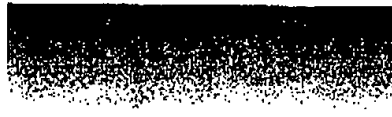
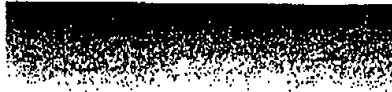
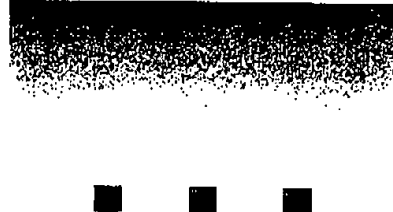
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PRK and LASIK:

good for rapid healing.

In both LASIK and PRK procedures, the Gaussian beam profile allows smoother and more precise ablation for excellent vision. Regardless of the treatment parameters, the eye heals more quickly as a result of the optimized beam distribution. The shallower ablation depth allows you, as the surgeon, to treat a wider range of corrections than with more conventional systems. This is of particular benefit with LASIK. It also means an end to corneal opacity – as even after ablation the Gaussian beam ensures that the cornea remains transparent.

Photos: P. of Dr. J. Smith

**Gaussian profile****Flat-top profile***Untreated**Untreated**Laser result with Gaussian beam**Laser result with flat-top profile**Smooth ablated surface**Rough ablated surface***Comparison of Gaussian and flat-top profiles:**

The mathematical simulation shows a significantly smoother surface with the MEL 70 G-Scan with Gaussian beam.